INFORMATION SHEET

ORDER NO.
RANCHO MURIETA COMMUNITY SERVICES DISTRICT
VAN VLECK RANCH RECYCLED WATER REUSE AREAS
SACRAMENTO COUNTY

Background

Rancho Murieta Community Services District (RMCSD) and Van Vleck Ranching and Resources, Inc. have entered into an agreement whereby RMCSD will supply tertiary disinfected wastewater for irrigation of pasture on portions of the Van Vleck Ranch, thereby reducing the volume of wastewater in storage at the WWTF. The RMCSD WWTF is regulated under WDRs Order No. 5-10-124 which prescribes requirements for the treatment, including effluent limitations.

RMCSD will manage both the distribution and use of recycled water, and irrigation will be coordinated with the ranch manager to allow periodic grass cutting and cattle rotation. Van Vleck Ranching and Resources, Inc. is not named as a co-discharger in this Order because the discharge will last no more than 75 days and because RMCSD has agreed to accept full responsibility for compliance with this Order. If RMCSD were to apply for WDRs for a long-term discharge, Van Vleck Ranching and Resources, Inc. would likely be named as a co-discharger.

Recycled water will be reused on approximately 90 acres of pastureland on the Van Vleck Ranch for a period of no longer than 75 days that will end no later than 31 October 2007. Three separate reuse areas will receive the recycled water: Pasture 1 (49 acres), Pasture 2 (25 acres), and Pasture 3 (22 acres). Recycled water will be pumped from the WWTF equalization basin using an existing pump station to a temporary aboveground supply pipeline and spray irrigation system.

Recycled water supplied to the reuse areas will be treated to tertiary standards using oxidation, dissolved air flotation, and filtration. Tertiary effluent will be disinfected to achieve a 7-day median total coliform concentration of no more than 2.2 MPN/100 mL using chlorine.

Because of the advanced treatment processes employed at the WWTF, biochemical oxygen demand loadings are expected to be minimal. The projected BOD loading rate is below the loading rate that typically causes objectionable odors and is unlikely to mobilize constituents in the subsurface. Total nitrogen loading rates will be below the demand of the existing vegetation and therefore should not impact groundwater quality.

The Sacramento County Department of Environmental Review and Assessment issued an emergency exemption pursuant to Section 15269 of the California Environmental Quality Act (CEQA) Guidelines for a Conditional Use Permit for Van Vleck Ranching and Resources, Inc. for water recycling at the reuse areas for a maximum of 75 days. The exemption was based on the Governor's proclamation of a state of emergency due to continued drought conditions in Sacramento County. The Sacramento County Board of Supervisors subsequently approved the 75-day Use Permit. The Use Permit is temporary and will expire on 31 October 2007. Therefore, this Order also expires on that date.

Proposed Order Terms and Conditions

The antidegradation directives of Section 13000 of the California Water Code require that waters of the State that are better in quality than established water quality objectives be maintained "consistent with the maximum benefit to the people of the State." Waters can be of high quality for some constituents or beneficial uses and not others. Policies and procedures for complying with this directive are set forth in the Basin Plan (including by reference State Water Board Resolution No. 68-16, "Statement of Policy With Respect to Maintaining High Quality Waters in California," or "Antidegradation" Policy).

Resolution 68-16 is applied on a case-by-case, constituent-by-constituent basis in determining whether a certain degree of degradation can be justified. It is incumbent upon the Discharger to provide technical information for the Regional Water Board to evaluate that fully characterizes:

- All waste constituents to be discharged;
- The background quality of the uppermost layer of the uppermost aquifer;
- The background quality of other waters that may be affected;
- The underlying hydrogeologic conditions;
- Waste treatment and control measures;
- How treatment and control measures are justified as best practicable treatment and control;
- The extent the discharge will impact the quality of each aquifer; and
- The expected degree of degradation.

In allowing a discharge, the Regional Water Board must comply with CWC section 13263 in setting appropriate conditions. The Regional Water Board is required to implement the Basin Plan and consider the beneficial uses to be protected along with the water quality objectives essential for that purpose. The Regional Water Board need not authorize the full utilization of the waste assimilation capacity of the groundwater (CWC 13263(b)) and must consider other waste discharges and factors that affect that capacity.

Some degradation of the groundwater for certain constituents is consistent with maximum benefit to the people of California because the technology, energy, and waste management advantages of advanced treatment and water recycling outweigh the environmental impact of a facility that would otherwise rely on percolation for effluent disposal. Economic prosperity of local communities is of maximum benefit to the people of California, and there is therefore sufficient reason to accommodate this wastewater discharge, provided terms of reasonable degradation are defined and met. The proposed Order authorizes some degradation consistent with the maximum benefit to the people of the State.

Groundwater Limitations

The limited groundwater quality information provided in the RWD is not sufficient to determine final groundwater limitations. The groundwater limitations of the proposed Order are limited to those constituents known to be present in the waste, except for trihalomethanes, which are expected to be present in the waste because of chlorine disinfection. An interim groundwater limitation for each constituent was selected in accordance with the most stringent limits set forth in the Basin Plan. The values tabulated below reflect water quality objectives that must be met to maintain specific beneficial uses of groundwater. The most stringent value applies unless it has been demonstrated that background groundwater quality exceeds that value or the beneficial use that is it designed to protect could not exist. For instance, the most stringent limit for TDS (450 mg/L) is based on protection of irrigation supply for the most salt-sensitive crops. If it can be shown that salt-sensitive crops will not be grown due to local climate and/or soil conditions, then the next highest limit applies. In general, the burden of making such a demonstration falls on the discharger.

Constituent	Units	Value	Beneficial Use	Criteria or Justification
Arsenic	ug/L	0.004	MUN [1]	California Public Health Goal [10]
Cadmium	ug/L	0.07	MUN [1]	California Public Health Goal [10]
Chloride	mg/L	106	AGR [2]	Chloride sensitivity on certain crops irrigated via sprinklers [3]
		142	AGR [2]	Chloride sensitivity on certain crops [3]
		250	MUN [1]	Recommended Secondary MCL [4]
		500	MUN [1]	Upper Secondary MCL [4]
Chromium, total	ug/L	50	MUN [1]	Primary MCL [5]
Copper	ug/L	170	MUN [1]	California Public Health Goal [10]
Iron	ug/L	0.3	MUN [1]	Secondary MCL [5]
Lead	ug/L	2	MUN [1]	California Public Health Goal [10]
Manganese	ug/L	0.05	MUN [1]	Secondary MCL [5]
Mercury	ug/L	1.2	MUN [1]	California Public Health Goal [10]
Nickel	ug/L	12	MUN [1]	California Public Health Goal [10]
Sodium	mg/L	69	AGR [2]	Sodium sensitivity on certain crops [3]
Zinc	ug/L	2,000	AGR [2]	Irrigation of crops [3]
		2,100	MUN [1]	USEPA Cancer Risk Estimate [6]
Total Dissolved Solids	mg/L	450[8]	AGR [2]	Salt sensitivity for certain crops [3]
		500	MUN [1]	Recommended Secondary MCL [4]
		1,000	MUN [1]	Upper Secondary MCL [4]
Total Coliform Organisms	MPN/100 ml	Less than 2.2	MUN [1]	Basin Plan

Constituent	Units	Value	Beneficial Use	Criteria or Justification
Trihalomethanes	ug/L	80	MUN [1]	Federal MCL [9]
Bromoform	ug/L	4	MUN [1]	USEPA Cancer Risk Estimate [6]
Bromodichloromethane	ug/L	0.27	MUN [1]	Cal/EPA Cancer Potency Factor [7]
Chloroform	ug/L	1.1	MUN [1]	Cal/EPA Cancer Potency Factor [7]
Dibromochloromethane	ug/L	0.37	MUN [1]	Cal/EPA Cancer Potency Factor [7]
pH	pH Units	6.5 to 8.5	MUN [1]	USEPA Secondary MCL [8]
		6.5 to 8.4	AGR [2]	Irrigation of crops [3]

1 Municipal and domestic supply.

2 Agricultural supply.

3 Ayers, R. S. and D. W. Westcot, Water Quality for Agriculture, Food and Agriculture Organization of the United Nations – Irrigation and Drainage Paper No. 29, Rev. 1, Rome (1985).

4 Title 22, California Code of Regulations (CCR), Section 64449, Table 64449-B.

5 Title 22, CCR, Section 64449, Table 64449-A.

6 USEPA Integrated Risk Information System.

7 Cal/EPA Toxicity Criteria Database (OEHHA).

8 40 Code of Federal Regulations, 143.3.

9 40 Code of Federal Regulations, 141.64.

10 Negligible cancer risk level for drinking water (OEHHA).

Because of the high quality effluent and the short-term nature of the discharge, groundwater monitoring is not required. If the discharger subsequently obtains WDRs for a long-term discharge, groundwater monitoring may be appropriate.

Discharge Prohibitions and Specifications

Most of the Discharge Prohibitions and Discharge Specifications are identical those prescribed for similar discharges of recycled water.

Discharge Specification B.1

Ordinarily, waste discharge requirements for such discharges require that the Discharger grow crops on the reuse areas and ensure that cropping activities are sufficient to take up all of the nitrogen applied, including fertilizers and waste from grazing livestock. The Monitoring and Reporting Program would typically require that the Discharger monitor all sources of nitrogen and calculate monthly and cumulative annual loading rates to demonstrate that agronomic rates for nitrogen have not been exceeded. Contributions from cattle waste are usually considered because waste from grazing cattle can be a significant source of nitrogen. This Order does not require that the Discharger consider nitrogen from grazing cattle only because the discharge is limited to 75 days. Relief from this requirement does not set a precedent, and the requirement would likely be included in any long-term WDRs.

Discharge Specification B.4

Based on the description of the proposed discharge in the RWD, Discharge Specification B.4 states that irrigation of the reuse areas shall occur only when appropriately trained RMCSD personnel are on duty, and requires that the reuse areas be inspected as frequently as necessary to ensure continuous compliance with the requirements of this Order. The Discharger asked that the time limitation be removed to allow around the clock operation. However, both the CEQA Initial Study and the Discharger's approved Title 22 Engineering Report stated that irrigation would take place only when RMCSD personnel are on duty. Because this measure is necessary to protect water quality and public health, it is not appropriate the remove the requirement.

Provision E.12

The owner of the reuse areas has obtained a Use Permit that allows the discharge for a maximum of 75 days ending no later than 31 October 2007. Therefore, Provision E.12 states that the Order expires on the same date, and requires that the Discharger obtain a Use Permit and new waste discharge requirements if they wish to continue the discharge after that date..

Monitoring Requirements

Section 13267 of the CWC authorizes the Regional Water Board to require monitoring and technical reports as necessary to investigate the impact of a waste discharge on waters of the state. The proposed Order requires monitoring of tertiary effluent and the reuse areas.

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